AMENDMENTS TO THE SPECIFICATION

Applicants respectfully request the Examiner to replace the numbered paragraphs as listed below in the application.

[0002] The present invention describes a framework for organizing, selecting and launching media items. Part of that framework involves the design and operation of graphical user interfaces with the basic building blocks of point, click, scroll, hover and zoom and, more particularly, to graphical user interfaces associated with media items which can be used with a ~~free-space~~three-dimensional (hereinafter "3D") pointing remote.

[0010] Systems and methods according to the present invention address these needs and others by providing a total control framework for organizing, selecting and launching media items including a user interface framework which then provides for easy and rapid selection of media items. Control of the framework can employ a ~~free space~~3D pointing device that includes a minimal set of buttons and scroll wheel for pointing, clicking and scrolling through selections on an associated graphical user interface. This exemplary graphical user interface (GUI) provides feedback to the user through the use of an on-screen pointer, graphical animations when the pointer hovers over selections, and zooming into and out of selections to smoothly navigate between overview and detail screens. Exemplary embodiments of the present invention employ images, zooming for increased/decreased levels of detail and continuity of GUI objects which permit easy navigation by a user. Graphical user interfaces according to the present invention organize media item selections on a virtual surface. Similar selections can be grouped together. Initially, the interface presents a zoomed out view of the surface, and in most cases, the actual selections will not be visible in full detail at this

level. As the user zooms progressively inward, more details are revealed concerning the media item groups or selections. At different zoom levels, different controls are available so that the user can play groups of selections, individual selections, or go to another part of the virtual surface to browse other related media items.

[0011] According to one exemplary embodiment of the present invention, a method for displaying information on a graphical user interface includes the steps of: displaying a first plurality of images at a first magnification level, receiving a first selection indication that identifies a subset of the plurality of images, displaying a first zoomed version of the selected subset of the plurality of images at a second magnification level, receiving a second selection indication that identifies an image within the subset of images, and displaying a second zoomed version of the identified image, wherein the second zoomed version of the identified image includes at least one user-actuable control element. The control in this example can include a ~~free-space~~3D pointing device using a gyroscope or other mechanism to define both screen position and motion vector to determine the particular command desired. A set of buttons is also included for the "click" or select case as well as a "back" button.

[0031] In this exemplary embodiment, the media system 200 includes a television/monitor 212, a video cassette recorder (VCR) 214, digital video disk (DVD) recorder/playback device 216, audio/video tuner 218 and compact disk player 220 coupled to the I/O bus 210. The VCR 214, DVD 216 and compact disk player 220 may be single disk or single cassette devices, or alternatively may be multiple disk or multiple cassette devices. They may be independent units or integrated together. In addition, the media system 200 includes a microphone/speaker system 222, video camera 224 and a wireless I/O control device 226. According to exemplary embodiments of the present invention, the wireless I/O control device 226 is a media system remote control unit that supports ~~free-space~~3D pointing, has a minimal number of buttons to support navigation, and communicates with the entertainment system 200

through RF signals. For example, wireless I/O control device 226 can be a ~~free-space~~3D pointing device which uses a gyroscope or other mechanism to define both a screen position and a motion vector to determine the particular command desired. A set of buttons can also be included on the wireless I/O device 226 to initiate the "click" primitive described below as well as a "back" button. In another exemplary embodiment, wireless I/O control device 226 is a media system remote control unit, which communicates with the components of the entertainment system 200 through IR signals. In yet another embodiment, wireless I/O control device 134 may be an IR remote control device similar in appearance to a typical entertainment system remote control with the added feature of a track-ball or other navigational mechanisms which allows a user to position a cursor on a display of the entertainment system 100.

[0040] According to one exemplary embodiment of the present invention, the input device can be a wireless mouse, e.g., the wireless mouse manufactured by Gyration, Inc.12930 Saratoga Avenue, Bldg.C, Saratoga, CA 95070, coupled with a graphical user interface that supports the point, click, scroll, hover and zoom building blocks which are described in more detail below. One feature of this exemplary input device that is beneficial for use in conjunction with the present invention is that it has only two buttons and a scroll wheel, i.e., three input actuation objects. One of the buttons can be configured as a ZOOM IN (select) button and one can be configured as a ZOOM OUT (back) button. Compared with the conventional remote control units, e.g., that shown in Figure 1, the present invention simplifies this aspect of the GUI by greatly reducing the number of buttons, etc., that a user is confronted with in making his or her media item selection. An additional preferred, but not required, feature of input devices according to exemplary embodiments of the present invention is that they provide "~~free space~~3D pointing" capability for the user. The phrase "~~free space~~3D pointing" is used in this specification to refer to the ability of a user to freely move the input device in three (or more) dimensions in the air in front of the display screen and the corresponding ability of the user interface to translate those motions directly into

movement of a cursor on the screen. Thus "~~free space~~3D pointing" differs from conventional computer mouse pointing techniques which use a surface other than the display screen, e.g., a desk surface or mousepad, as a proxy surface from which relative movement of the mouse is translated into cursor movement on the computer display screen. Use of ~~free space~~3D pointing in control frameworks according to exemplary embodiments of the present invention further simplifies the user's selection experience, while at the same time providing an opportunity to introduce gestures as distinguishable inputs to the interface. A gesture can be considered as a recognizable pattern of movement over time which pattern can be translated into a GUI command, e.g., a function of movement in the x, y, z, yaw, pitch and roll dimensions or any subcombination thereof. Those skilled in the art will appreciate, however that any suitable input device can be used in conjunction with zoomable GUIs according to the present invention. Other examples of suitable input devices include, but are not limited to, trackballs, touchpads, conventional TV remote control devices, speech input, any devices which can communicate/translate a user's gestures into GUI commands, or any combination thereof. It is intended that each aspect of the GUI functionality described herein can be actuated in frameworks according to the present invention using at least one of a gesture and a speech command. Alternate implementations include using cursor and/or other remote control keys or even speech input to identify items for selection.

[0079] Having provided some examples of zoomable graphical user interfaces according to the present invention, exemplary frameworks and infrastructures for using such interfaces will now be described. Figure 22 provides a framework diagram wherein zoomable interfaces associated with various high level applications 1900, e.g., movies, television, music, radio and sports, are supported by primitives 1902 (referred to in the Figure as "atoms"). In this exemplary embodiment, primitives 1902 include POINT, CLICK, ZOOM, HOVER and SCROLL, although those skilled in the art will

appreciate that other primitives may be included in this group as well, e.g., PAN and DRAG. As described above the POINT and CLICK primitives operate to determine cursor location and trigger an event when, for example, a user actuates the ZOOM IN or ZOOM OUT button on the handheld input device. These primitives simplify navigation and remove the need for repeated up-down-right-left button actions. As illustrated above, the ZOOM primitive provides an overview of possible selections and gives the user context when narrowing his or her choices. This concept enables the interface to scale to large numbers of media selections and arbitrary display sizes. The SCROLL primitive handles input from the scroll wheel input device on the exemplary handheld input device and can be used to, for example, accelerates linear menu navigation. The HOVER primitive dynamically enlarges the selections underneath the pointer (and/or changes the content of the selection) to enable the user to browse potential choices without committing. Each of the aforedescribed primitive operations can be actuated in GUIs according to the present invention in a number of different ways. For example, each of POINT, CLICK, HOVER, SCROLL and ZOOM can be associated with a different gesture which can be performed by a user. This gesture can be communicated to the system via the input device, whether it be a ~~free-space~~3D pointer, trackball, touchpad, etc. and translated into an actuation of the appropriate primitive. Likewise, each of the primitives can be associated with a respective voice command.